Analytical Data Package Prepared For

Pacific Northwest National Lab

Radiochemical Analysis By

STL Richland STLRL

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains _____ Pages

Report Nbr: 32771

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W04902A	S06-004	B1H¥V5 ~~Dayes~~ B1HVY5 4|3|12	J6G060230-1	H8QRD1AD	9H8QRD10	6191190

Comments:

SEVERN TRENT STL

STL Richland
2800 George Washington Way
Richland, WA 99354

Tel: 509 375 3131   Fax: 509 375 5590
www.stl-inc.com

Certificate of Analysis

Pacific Northwest National Laboratories
Sigma V Building
Richland, WA 99352

July 21, 2006

Attention: Dot Stewart

SAF Number	:	S06-004
Date SDG Closed	:	April 18, 2006
Number of Samples	:	One (1)
Sample Type	:	Water
SDG Number	:	W04902A
Data Deliverable	:	15-Day / Priority

CASE NARRATIVE

I.   Introduction

On July 6, 2006, a request for reanalysis of one water sample was received at STL Richland (STLR). Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Pacific Northwest National Laboratories (PGW) specific ID:

PGW ID#	STLR ID#	MATRIX	DATE OF RECEIPT
B1HVY5	H8QRD (H3GRE)	WATER	4/17/06

II.   Sample Receipt

The samples were received in good condition and no anomalies were noted during check-in.

III.   Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting
Gross Beta by method RICH-RC-5014

IV.   Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.
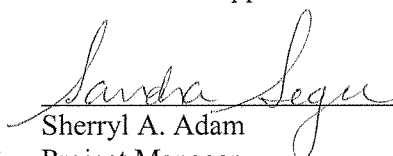
V.   Comments

Gas Proportional Counting
Gross Beta by method RICH-RC-5014:
The reanalysis results are within RER acceptance criteria. The LCS, batch blank, samples and sample duplicate (B1HVY5) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:

Sandra Segu

Sherryl A. Adam
for   Project Manager

Drinking Water Method Cross References

	DRINKING WATER ASTM METHOD CROSS REFERENCES	
Referenced Method	**Isotope(s)**	**STL Richland's SOP number**
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr89/90	RICH-RC-5006
ASTM D2460	Total Radium	RICH-RC-5027
Standard Method 7500-U-C & ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007
NOTE:		
The Gross Alpha LCS is prepared with Am-241 (unless otherwise specified in the case narrative)		
The Gross Beta LCS is prepared with Sr/Y-90 (unless otherwise specified in the case narrative)		

Uncertainty Estimation

STL Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = constants * f(x,y,z,...)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/√n), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) u_c _Combined Uncertainty._	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, u_c _the combined uncertainty._ The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. Lc=(1.645 * Sqrt(2*(BkgrndCnt/BkgrndCntMin)/SCntMin)) * (ConvFct/(Eff*Yld*Abn*Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC|MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. MDC = (4.65 * Sqrt((BkgrndCnt/BkgrndCntMin)/SCntMin) + 2.71/SCntMin) * (ConvFct/(Eff * Yld * Abn * Vol) * IngrFct). For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the **Work Order** Number.
RER	The equation Replicate Error Ratio = (S-D)/[sqrt(TPUs^2 + TPUd^2)] as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

7/21/2006 12:29:55 PM

STL Richland   Report

Lab Code: STLRL

FormNbr: R   **FormatType:** FEAD   **Version:** 05   **Rpt Nbr:** 32771   **File Name:** h:\Reportdb\edd\FeadIV\Rad\W04902A.Edd, h:\Reportdb\edd\FeadIV\Rad\32771.E

Lab Sample Id:	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr:	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:
9H8QRD10	B1HYV5		MW6-SBB-A1	S06-004	W04902A					04/17/2006 12:27

Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	Unit	Analy Date/Time	Act
6191190	BETA	12587-47-2	8.54E+01	pCi/L	4.6E+00	1.2E+01		3.27E+00	100.0	9310_ALPHABETA	1.996E-01	L	07/20/200 12:56	I

STL Richland

rptFeadRadSummaryEdd v3.48

U Qual – Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual – No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual– Analyte was found in the associated laboratory blank above the MDC.

1

Friday, July 21, 2006   **STL Richland QC Blank Report**   **Lab Code:** STLRL

FormNbr: R   **FormatType:** FEAD   **VersionNbr:** 05   **File Name:** h:\Reportdb\edd\FeadIV\Rad\W04902A.Edd, h:\Reportdb\edd\FeadIV\Rad\32771.E

Lab Sample Id:	H8W0A1AB		Sdg/Rept Nbr:	W04902A	32771		Collection Date:	04/17/2006 12:27
Client Id:	NA		Matrix:	WATER	WATER		Sample On Date:	
Moisture/Solids%*:			QC Type:	BLK			Received Date:	07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AC	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6191190	BETA	1.36E+00	pCi/L	1.3E+00	U	2.61E+00	100.0		9310_ALPHAB	2.017E-01	07/20/2006				D
BLK	12587-47-2			1.3E+00						L	12:56				

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

1

STL Richland QC Control Sample Report

FormNbr: R   FormatType: FEAD   VersionNbr: 05   File Name: h:\Reportdb\edd\FeadIV\Rad\W04902A.Edd, h:\Reportdb\edd\FeadIV\Rad\32771.E

Lab Sample Id:	H8W0A1CS	**Sdg/Rept Nbr:** W04902A 32771	**Collection Date:** 04/17/2006 12:27
Client Id:	NA	**Matrix:** WATER WATER	**Sample On Date:**
Moisture/Solids%*:		**QC Type:** BS	**Received Date:** 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AD	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6191190	BETA	1.78E+01	pCi/L	3.1E+00		2.61E+00	100.0	2.27E+01	9310_ALPHAB	2.014E-01	07/20/2006			70	D
BS	12587-47-2			2.3E+00				78.2		L	12:56			130	

STL Richland

rptFeadRadEdd v3.68

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

FormNbr: R   **FormatType:** FEAD   **VersionNbr:** 05   **File Name:** h:\Reportdb\edd\FeadIV\Rad\W04902A.Edd, h:\Reportdb\edd\FeadIV\Rad\32771.E

Lab Sample Id: H8QRD1ER	**Sdg/Rept Nbr:** W04902A 32771	**Collection Date:** 04/17/2006 12:27
Client Id: B1HYV5	**Matrix:** WATER WATER	**Sample On Date:**
Moisture/Solids%*:	**QC Type:** DUP	**Received Date:** 07/06/2006

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
S06-004	MW6-SBB-A19981								AB	H

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu-al	MDC	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RER/ UCL	LCS LCL/UCL	R Typ
6191190	BETA	8.72E+01	pCi/L	1.2E+01		3.06E+00	100.0		9310_ALPHAB	2.008E-01	07/20/2006	2.2	0.2		D
DUP	12587-47-2	8.54E+01		4.6E+00						L	12:56	20.0	3		

U Qual - Analyzed for, but the result is less than the Mdc or gamma scan did not identify the nuclide.
J Qual - No U qualifier has been assigned and the result is below the Reporting Limit (CRDL).
B Qual- Analyte was found in the associated laboratory blank above the MDC.

Lot No., Due Date:	J6G060230; 07/21/2006
Client, Site:	384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test:	6191190; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix:	W04902A; WATER

1.0 COC
1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?   **Yes** ✓   No   N/A

2.0 QC Batch
2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?   **Yes** ✓   No   N/A

2.2 Are the QC appropriate for the analysis included in the batch?   **Yes** ✓   No   N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?   **Yes** ✓   No   N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?   **Yes** ✓   No   N/A

3.0 QC & Samples
3.1 Is the blank results, yield, and MDA within contract limits?   **Yes** ✓   No   N/A

3.2 Is the LCS result, yield, and MDA within contract limits?   **Yes** ✓   No   N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?   Yes   No   **N/A** ✓

3.4 Are the duplicate result, yields, and MDAs within contract limits?   **Yes** ✓   No   N/A

3.5 Are the sample yields and MDAs within contract limits?   **Yes** ✓   No   N/A

4.0 Raw Data
4.1 Were results calculated in the correct units?   **Yes** ✓   No   N/A

4.2 Were analysis volumes entered correctly?   **Yes** ✓   No   N/A

4.3 Were Yields entered correctly?   Yes   No   **N/A** ✓

4.4 Were spectra reviewed/meet contractual requirements?   **Yes** ✓   No   N/A

4.5 Were raw counts reviewed for anomalies?   **Yes** ✓   No   N/A

5.0 Other
5.1 Are all nonconformances included and noted?   Yes   No   **N/A** ✓

5.2 Are all required forms filled out?   **Yes** ✓   No   N/A

5.3 Was the correct methodology used?   **Yes** ✓   No   N/A

5.4 Was transcription checked?   **Yes** ✓   No   N/A

5.5 Were all calculations checked at a minimum frequency?   **Yes** ✓   No   N/A

5.6 Are worksheet entries complete and correct?   **Yes** ✓   No   N/A

6.0 Comments on any No response:

First Level Review _____   **Date** 7/21/06

STL

Data Review Checklist
RADIOCHEMISTRY
Second Level Review

QC Batch Number: 6 191190
WO 4902 A

Review Item	Yes (√)	No (√)	N/A (√)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?	√		
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	√		
3. Are the correct isotopes reported?	√		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result ≤ the Contract Detection Limit?	√		
2. Does the blank result meet the Contract criteria?	√		
3. Is the blank result < the Contract Detection Limit?	√		
4. Is the blank result > the Contract Detection Limit but the sample result < the Contract Detection Limit?			√
5. Is the LCS recovery with contract acceptance criteria?	√		
7. Is the LCS Minimum Detectable Activity ≤ the Contract Detection Limit?	√		
8. Do the MS/MSD results and yields meet acceptance criteria?			√
9. Do the duplicate sample results and yields meet acceptance criteria?	√		
C. Other			
1. Are all Nonconformances included and noted?			√
2. Are all required forms filled out?	√		
3. Was the correct methodology used?	√		
4. Was transcription checked?	√		
5. Were all calculations checked at a minimum frequency?	√		
6. Were units checked?	√		

Comments on any "No" response: _____

_____

_____

_____

_____

Second Level Review: *Sheryl A. Alden*   Date: 7-21-06

J66-060230

WO4902A

BiH VY5
Alpha SKS 7/6/06
Beta

Rcv'd 7/6/06
Due 7/21/06

07/06/2006
RECHECK, RECOUNT, OR REANALYSIS ORDER
CONTRACT NO MW6-SBB-

Severn Trent
2800 George Washington
Richland, WA 99354

Battelle PNNL Order   060706STLRL-R3495

Sample Delivery   W04891 and W04902

Special   The gross alpha/beta samples are for beta only.

Samples(s

Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME	
9H1WP310	B1HC79	Reanalysis	15/15	TC99_ETVDSK_LS	
9H1WP310	B1HC79	Reanalysis	15/15	9310_ALPHABETA	
9H3GRE10	B1HVY5	Reanalysis	15/15	9310_ALPHABETA	H8QRD

Deliver Report Results   Dorothy L. Stewart, K6-96

c/o Secretary
3110 Port of Benton Blvd.

The report results must reference the Battelle PNNL-order number, SDG number, and the Battelle PNNL
sample identification number shown above.

Seger, Sandra

060706STLRLR3495
.rtf (12 KB)

-----Original Message-----
From: Hampt, Heidi [mailto:heidi.hampt@pnl.gov]
Sent: Thursday, July 06, 2006 9:05 AM
To: Adam, Sherryl
Cc: Stewart, Dorothy L
Subject: Request for Recheck, Recount, or Reanalysis Order

 <<060706STLRLR3495.rtf>>
Sherryl,

Again, my RDR system grouped together samples from different SDGs. I'm not sure what the
problem is, but I will try to fix in the future.

Thanks,
Heidi

1

CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST

C.O.C. #	S06-004-142
	Page 1 of 1

Collector D. P. CONNOLLY	Contact/Requester Dot Stewart	Telephone No. 509-376-5056	MSIN	FAX
SAF No. S06-004	Sampling Origin Hanford Site	Purchase Order/Charge Code		
Project Title SURV. APRIL 2006	SHWSH103 B	Ice Chest No. 6u5-106 Temp.		
Shipped To (Lab) Severn Trent Incorporated. Richland	Method of Shipment Govt. Vehicle	Bill of Lading/Air Bill No.		
Protocol SURV	Priority: 45 Days	Offsite Property No.		

POSSIBLE SAMPLE HAZARDS/REMARKS ** **	SPECIAL INSTRUCTIONS Hold Time Total Activity Exemption: Yes ☑ No ☐ Batch all PNNL GW samples submitted under "W", "S", "I", "A" or "G" 06 SAFs into one SDG, not to exceed SDG closure of 14 days. Submit invoices & deliverables to DL Stewart, PNNL

Sample No.	Lab ID	*	Date	Time	No/Type Container	Sample Analysis	Preservative
B1HVY5		W	4.17.06	1227	1x1000-mL P	906.0_H3_LSC: Tritium (1) H3GRE	None
B1HVY5		W			1x1000-mL P	9310_ALPHABETA_GPC: Alpha + Beta (2)	HNO3 to pH <2
B1HVY5		W			1x20-mL P	Activity Scan	None
B1HVY5		W			2x4000-mL G/P	I129LL_SEP_LEPS_GS_LL: I-129 (1)	None
B1HVY5		W			3x1000-mL G/P	SRISO_SEP_PRECIP_GPC: Sr-90 (1)	HNO3 to pH <2

Relinquished By DURATEK D. P. CONNOLLY	Print	Sign	Date/Time APR 17 2006 1530	Received By J Welch S. Welch	Print	Sign	Date/Time APR 17 2006 1530	Matrix *
Relinquished By			Date/Time	Received By			Date/Time	S = Soil DS = Drum Solid
Relinquished By			Date/Time	Received By			Date/Time	SE = Sediment DL = Drum Liqui SO = Solid T = Tissue SL = Sludge WI = Wine W = Water L = Liquid O = Oil V = Vegetation A = Air X = Other
Relinquished By			Date/Time	Received By			Date/Time	

FINAL SAMPLE DISPOSITION	Disposal Method (e.g., Return to customer, per lab procedure, used in process)	Disposed By	Date/Time

Sample Preparation/Analysis

Balance Id:1120482733

384868, Pacific Northwest National Laboratory ,
Pacific Northwest National Lab   *90LA*

BC Gross Beta PrpRC5014

Pipet #: _229_

AnalyDueDate: 07/21/2006   *W04OHA*

S8 Gross Beta by GPC using Sr/Y-90 curve

Sep1 DT/Tm Tech:

5I CLIENT: HANFORD

PRIORITY

Batch: 6191190   WATER   pCi/L
SEQ Batch, Test: None   All Tests: 6191190 BCS8,

PM, Quote: HC , 57671

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ   *Scott*

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 H8QRD-1-AD		199.60g,in								
J6G060230-1-SAMP			1.5	84.5	100	26A	B45	7/20/06		
04/17/2006 12:27		AmtRec: LP	#Containers: 1			Scr:		Alpha:		Beta:
2 H8QRD-1-AE-X		200.80g,in								
J6G060230-1-DUP				88.9		26B				
04/17/2006 12:27		AmtRec: LP	#Containers: 1			Scr:		Alpha:		Beta:
3 H8W0A-1-AA-B		201.70g,in								
J6G100000-190-BLK				0.3		26C				
04/17/2006 12:27		AmtRec:	#Containers: 1			Scr:		Alpha:		Beta:
4 H8W0A-1-AC-C		201.40g,in	BESB2861 07/06/06,pd 12/28/05,r		0.3		26D			
J6G100000-190-LCS										
04/17/2006 12:27		AmtRec:	#Containers: 1			Scr:		Alpha:		Beta:

Comments: pH <2.0 JHC 7/18/06

All Clients for Batch:
    384868, Pacific Northwest National Laboratory   Pacific Northwest National Lab, HC , 57671

H8QRD1AD-SAMP Constituent List:
  BETA   RDL:4.00E+00   pCi/L   LCL: UCL: RPD:
H8W0A1AA-BLK:
  BETA   RDL:4.00E+00   pCi/L   LCL: UCL: RPD:
H8W0A1AC-LCS:
  Sr-90   RDL: pCi/L   LCL:70   UCL:130   RPD:20
H8QRD1AD-SAMP Calc Info:

Sample Preparation/Analysis

BC Gross Beta PrpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
5I CLIENT: HANFORD

Balance Id:1120482733

Pipet #: _____

AnalyDueDate: 07/21/2006

Sep1 DT/Tm Tech:

Batch: 6191190   pCi/L

SEQ Batch, Test: None

Sep2 DT/Tm Tech:

Prep Tech: ,RutherfordJ

Work Order, Lot, Sample DateTime	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On | Off (24hr) Circle	CR Analyst, Init/Date	Comments:
Uncert Level (#s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						
H8W0A1AA-BLK:										
Uncert Level (#s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						
H8W0A1AC-LCS:										
Uncert Level (#s).: 2	Decay to SaDt: Y	Blk Subt.: N	Sci.Not.: Y	ODRs: B						

Approved By _____   Date: _____

STL Richland   Key: In - Initial Amt,   fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2   Page 2   ISV - Insufficient Volume for Analysis   **WO Cnt: 4**

Richland Wa.   pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added   Prep_SamplePrep v4.8.24

ICOC Fraction Transfer/Status Report

ByDate: 7/21/2005, 7/26/2006, Batch: '6191190', User: *ALL Order By DateTimeAccepting

Q Batch	Work Ord	CurStatus		Accepting		Comments
6191190						
AC		CalcC	RutherfordJ	7/13/2006 12:09:12		
SC			wagarr	IsBatched	7/10/2006 9:28:13 AM	ICOC_RADCALC v4.8.24
SC			RutherfordJ	InPrep	7/13/2006 12:09:12 PM	RICH-RC-5016 REVISION 6
SC			RutherfordJ	Prep1C	7/18/2006 7:55:49 AM	RICH-RC-5014 REVISION 6
SC			ScottM	InPrep2	7/18/2006 9:12:12 AM	RICH-RC-5014 REVISION 6
SC			ScottM	Prep2C	7/20/2006 11:26:04 AM	RICH-RC-5014 REVISION 6
SC			BlackCL	InCnt1	7/20/2006 11:36:47 AM	RICH-RD-0003 REVISION 4
SC			DAWKINSO	CalcC	7/20/2006 10:44:45 PM	RICH-RD-0003 REVISION 4
AC			RutherfordJ	7/18/2006 7:55:49		
AC			ScottM	7/18/2006 9:12:12		
AC			ScottM	7/20/2006 11:26:04		
AC			BlackCL	7/20/2006 11:36:47		
AC			DAWKINSO	7/20/2006 10:44:45		

AC: Accepting Entry; SC: Status Change

STL Richland

Richland Wa.

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